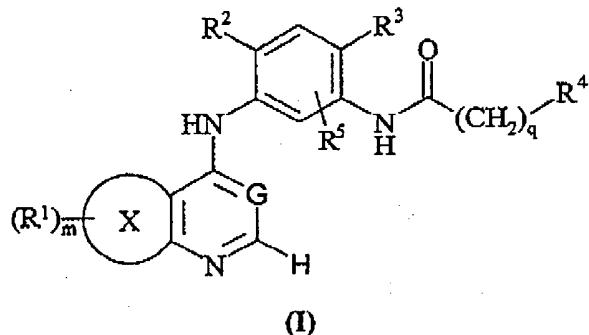


ATTORNEY DOCKET NO.: 056291-5046
 Application No.: 09/937,018
 Page 2

IN THE CLAIMS:

Claim 1 (canceled).

Claim 2 (currently amended and reformatted): A bicyclic bicyclic compound of the Formula (I); according to claim 1



wherein:

G is N;

the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing 6-membered heteroaryl ring within Formula (I) is fuopyrimidinyl, thienopyrimidinyl, pyrrolopyrimidinyl, oxazolopyrimidinyl, thiazolopyrimidinyl, purinyl, pyridopyrimidinyl, pyrimidopyrimidinyl or pteridinyl;

m is 0 or m is 1; and each

R¹ is independently hydroxy, halo, C₁₋₆alkyl, C₁₋₆alkoxy, C₁₋₆alkylS(O)_n- (wherein n is 0-2), N,N-(C₁₋₆alkyl)₂aminoC₁₋₆alkyl, N,N-(C₁₋₆alkyl)₂carbamoylC₁₋₆alkoxy, N,N-(C₁₋₆alkyl)₂aminoC₁₋₆alkoxy, C₁₋₆alkylS(O)₂-C₁₋₆alkoxy, N,N-(C₁₋₆alkyl)₂amino-N-(C₁₋₆alkyl)C₁₋₆alkylamino, N,N-(C₁₋₆alkyl)₂aminoC₁₋₆alkylaminoC₁₋₆alkyl, piperidin-1-ylC₁₋₆alkyl, homopiperidin-1-ylC₁₋₆alkyl, N-(C₁₋₆alkyl)piperidin-1-ylC₁₋₆alkyl, N-(C₁₋₆alkyl) homopiperidin-1-ylC₁₋₆alkyl, piperazin-1-ylC₁₋₆alkyl, 4-C₁₋₆alkylpiperazin-1-ylC₁₋₆alkyl, homopiperazinyl-1-ylC₁₋₆alkyl, 4-C₁₋₆alkylhomopiperazinyl-1-ylC₁₋₆alkyl, pyrrolidinylC₁₋₆alkoxy, piperidinylC₁₋₆alkoxy, homopiperidinylC₁₋₆alkoxy, N-(C₁₋₆alkyl)pyrrolidinylC₁₋₆alkoxy, N-(C₁₋₆alkyl)piperidinylC₁₋₆alkoxy,

ATTORNEY DOCKET NO.: 056291-5046
Application No.: 09/937,018
Page 3

N-(C₁₋₆alkyl)homopiperidinylC₁₋₆alkoxy, morpholinylC₁₋₆alkoxy, piperazinylC₁₋₆alkoxy,
N-(C₁₋₆alkyl)piperazinylC₁₋₆alkoxy, homopiperazinylC₁₋₆alkoxy,
N-(C₁₋₆alkyl)homopiperazinylC₁₋₆alkoxy, pyrrolidinyloxy, *N*-(C₁₋₆alkyl)pyrrolidinyloxy,
piperidinyloxy, *N*-(C₁₋₆alkyl)piperidinyloxy, homopiperidinyloxy,
N-(C₁₋₆alkyl)homopiperidinyloxy, morpholinylC₁₋₆alkylaminoC₁₋₆alkyl, thiazolylC₁₋₆alkoxy
or pyridylC₁₋₆alkoxy;

and any aryl, heteroaryl or heterocyclyl group in a R¹ group may be optionally substituted with one or more groups selected from hydroxy, halo, C₁₋₆alkyl, C₁₋₆alkoxy, carboxy, C₁₋₆alkoxycarbonyl, carbamoyl, *N*-C₁₋₆alkylcarbamoyl, *N*-(C₁₋₆alkyl)₂carbamoyl, C₂₋₆alkanoyl, amino, *N*-C₁₋₆alkylamino and *N,N*-(C₁₋₆alkyl)₂amino,
and any heterocyclyl group in a R¹ group may be optionally substituted with one or two oxo or thioxo substituents,

and any of the R¹ groups defined hereinbefore which comprises a CH₂ group which is attached to 2 carbon atoms or a CH₃ group which is attached to a carbon atom may optionally bear on each said CH₂ or CH₃ group a substituent selected from hydroxy, amino, C₁₋₆alkoxy, *N*-C₁₋₆alkylamino, *N,N*-(C₁₋₆alkyl)₂amino and heterocyclyl;

R² is hydrogen, C₁₋₄alkyl or halo;

R³ is hydrogen, C₁₋₄alkyl or halo;

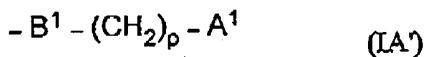
q is 0;

R⁴ is phenyl, thiienyl, furyl, oxazolyl, isoxazolyl, pyrimidyl or pyridyl optionally substituted by one or two halo, trifluoromethyl, cyano, C₁₋₄alkyl, C₁₋₄alkoxy, -O-(C₁₋₃alkyl)-O-, *N,N*-(C₁₋₄alkyl)₂amino, C₁₋₆alkanoylamino, C₁₋₆alkylsulphonyl-*N*-(C₁₋₆alkyl)amino, phenyl (optionally substituted by one or two halo groups), furyl, azetidinyl, pyrrolidinyl, 3-pyrrolinyl, piperidinyl piperidine, homopiperidinyl, morpholino, piperazinyl, homopiperazinyl, *N*-(C₁₋₆alkyl)piperazinyl and *N*-(C₁₋₆alkyl)homopiperazinyl, or R⁴ is fluorenyl or dibenzofuranyl;

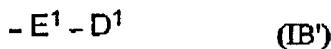
and any aryl, heteroaryl or heterocyclyl group in a R⁴ group may be optionally substituted by one or more groups selected from hydroxy, halo, trifluoromethyl, cyano, mercapto, nitro, amino, carboxy, carbamoyl, formyl, sulphamoyl, C₁₋₆alkyl, C₂₋₆alkenyl, C₂₋₆alkynyl, C₁₋₆alkoxy, -O-(C₁₋₃alkyl)-O-, C₁₋₆alkylS(O)_n (wherein n is 0-2), *N*-C₁₋₆alkylamino,

ATTORNEY DOCKET NO.: 056291-5046
 Application No.: 09/937,018
 Page 4

N,N-(C₁₋₆alkyl)₂amino, C₁₋₆alkoxycarbonyl, N-C₁₋₆alkylcarbamoyl, N,N-(C₁₋₆alkyl)₂carbamoyl, C₂₋₆alkanoyl, C₁₋₆alkanoyloxy, C₁₋₆alkanoylamino, N-C₁₋₆alkylsulphamoyl, N,N-(C₁₋₆alkyl)₂sulphamoyl, C₁₋₆alkylsulphonylamino and C₁₋₆alkylsulphonyl-N-(C₁₋₆alkyl)amino,
or any aryl, heteroaryl or heterocyclyl group in a R⁴ group may be optionally substituted with one or more groups of the Formula (IA'):



wherein A¹ is halo, hydroxy, C₁₋₆alkoxy, cyano, amino, N-C₁₋₆alkylamino, N,N-(C₁₋₆alkyl)₂amino, carboxy, C₁₋₆alkoxycarbonyl, carbamoyl, N-C₁₋₆alkylcarbamoyl or N,N-(C₁₋₆alkyl)₂carbamoyl, p is 1 - 6, and B¹ is a bond, oxy, imino, N-(C₁₋₆alkyl)imino or -NHC(O)-, with the proviso that p is 2 or more unless B¹ is a bond or -NHC(O)-, or any aryl, heteroaryl or heterocyclyl group in a R⁴ group may be optionally substituted with one or more groups of the Formula (IB'):



wherein D¹ is aryl, heteroaryl or heterocyclyl and E¹ is a bond, C₁₋₆alkylene, oxyC₁₋₆alkylene, oxy, imino, N-(C₁₋₆alkyl)imino, iminoC₁₋₆alkylene, N-(C₁₋₆alkyl)iminoC₁₋₆alkylene, C₁₋₆alkylene-oxyC₁₋₆alkylene, C₁₋₆alkylene-iminoC₁₋₆alkylene, C₁₋₆alkylene-N-(C₁₋₆alkyl)-iminoC₁₋₆alkylene, -NHC(O)-, -NHSO₂- , -SO₂NH- or -NHC(O)-C₁₋₆alkylene-, and any aryl, heteroaryl or heterocyclyl group in a substituent on R⁴ may be optionally substituted with one or more groups selected from hydroxy, halo, C₁₋₆alkyl, C₁₋₆alkoxy, carboxy, C₁₋₆alkoxycarbonyl, carbamoyl, N-C₁₋₆alkylcarbamoyl, N-(C₁₋₆alkyl)₂carbamoyl, C₂₋₆alkanoyl, amino, N-C₁₋₆alkylamino and N,N-(C₁₋₆alkyl)₂amino, and any C₃₋₇cycloalkyl or heterocyclyl group in a R⁴ group may be optionally substituted with one or two oxo or thioxo substituents, and any of the R⁴ groups defined hereinbefore which comprises a CH₂ group which is attached to 2 carbon atoms or a CH₃ group which is attached to a carbon atom may optionally bear on each said CH₂ or CH₃ group a substituent selected from hydroxy, amino, C₁₋₆alkoxy, N-C₁₋₆alkylamino, N,N-(C₁₋₆alkyl)₂amino and heterocyclyl;

ATTORNEY DOCKET NO.: 056291-5046
Application No.: 09/937,018
Page 5

and

R^5 is hydrogen;

or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof.

Claim 3 (currently amended): A bicyclic compound of the Formula (I) according to claim 2-4 wherein:

~~the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing~~

~~6-membered heteroaryl ring within Formula (I) is furopyrimidinyl, thienopyrimidinyl, pyrrolopyrimidinyl, oxazolopyrimidinyl, thiazolopyrimidinyl, purinyl, pyridopyrimidinyl, pyrimidopyrimidinyl or pteridinyl;~~

~~m is 0 or m is 1 and each R¹ is independently hydroxy, halo, C₁₋₆alkyl, C₁₋₆alkoxy, C₁₋₆alkylS(O)_n- (wherein n is 0-2), N,N-(C₁₋₆alkyl)₂aminoC₁₋₆alkyl, N,N-(C₁₋₆alkyl)₂carbamoylC₁₋₆alkoxy, N,N-(C₁₋₆alkyl)₂aminoC₁₋₆alkoxy, C₁₋₆alkylS(O)₂-C₁₋₆alkoxy, N,N-(C₁₋₆alkyl)₂amino-N-(C₁₋₆alkyl)C₁₋₆alkylamino, N,N-(C₁₋₆alkyl)₂aminoC₁₋₆alkylaminoC₁₋₆alkyl, piperazin-1-ylC₁₋₆alkyl, 4-C₁₋₆alkylpiperazin-1-ylC₁₋₆alkyl, homopiperazinyl-1-ylC₁₋₆alkyl, 4-C₁₋₆alkylhomopiperazinyl-1-ylC₁₋₆alkyl, pyrrolidinylC₁₋₆alkoxy, piperidinylC₁₋₆alkoxy, N-(C₁₋₆alkyl)pyrrolidinylC₁₋₆alkoxy, N-(C₁₋₆alkyl)piperidinylC₁₋₆alkoxy, morpholinylC₁₋₆alkoxy, piperazinylC₁₋₆alkoxy, N-(C₁₋₆alkyl)piperazinylC₁₋₆alkoxy, homopiperazinylC₁₋₆alkoxy, N-(C₁₋₆alkyl)homopiperazinylC₁₋₆alkoxy, pyrrolidinyloxy, piperidinyloxy, morpholinylC₁₋₆alkylaminoC₁₋₆alkyl or pyridylC₁₋₆alkoxy; and~~

~~R² is hydrogen, C₁₋₄alkyl or halo;~~

~~R³ is hydrogen, C₁₋₄alkyl or halo;~~

~~q is 0;~~

~~R⁴ is phenyl, thienyl, furyl, oxazolyl, isoxazolyl, pyrimidyl or pyridyl optionally substituted by one or two halo, cyano, C₁₋₄alkyl, C₁₋₄alkoxy, N,N-(C₁₋₄alkyl)₂amino, piperidinyl, morpholino or piperazinyl; and~~

~~R⁵ is hydrogen;~~

or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof.

ATTORNEY DOCKET NO.: 056291-5046
Application No.: 09/937,018
Page 6

Claim 4 (currently amended): A bicyclic compound of the Formula (I) according to claim 24 wherein:

the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing

6-membered heteroaryl ring within Formula (I) is furo[3,2-d]pyrimidinyl, furo[2,3-d]pyrimidinyl, thieno[3,2-d]pyrimidinyl, thieno[2,3-d]pyrimidinyl, pyrrolo[3,2-d]pyrimidinyl, pyrrolo[2,3-d]pyrimidinyl, oxazolo[5,4-d]pyrimidinyl, oxazolo[4,5-d]pyrimidinyl, thiazolo[5,4-d]pyrimidinyl, thiazolo[4,5-d]pyrimidinyl, purinyl, pyrido[2,3-d]pyrimidinyl, pyrido[3,4-d]pyrimidinyl, pyrido[4,3-d]pyrimidinyl, pyrido[3,2-d]pyrimidinyl, pyrimido[4,5-d]pyrimidinyl, pyrimido[5,6-d]pyrimidinyl or pteridinyl;

~~m is 0 or m is 1 and each R¹ is independently methyl, methoxy, methylthio,~~

~~2-diisopropylaminoethoxy, 3-diethylaminoproxy, 3-morpholinoproxy or 3-pyrrolidin-1-ylpropoxy;~~

R² is hydrogen, methyl, fluoro or chloro;

R³ is hydrogen; **and**

~~q is 0;~~

R⁴ is phenyl optionally substituted by one or two groups selected from fluoro, chloro, trifluoromethyl, cyano, methyl, methoxy, ethoxy, methylenedioxy, N,N-dimethylamino, acetamido, N-methylmethanesulphonamido, phenyl, 4-fluorophenyl, 4-chlorophenyl, 2-furyl, azetidin-1-yl, pyrrolidin-1-yl, 3-pyrrolin-1-yl, piperidino, homopiperidin-1-yl, morpholino, piperazin-1-yl, homopiperazin-1-yl, 4-methylpiperazin-1-yl and 4-methylhomopiperazin-1-yl,

or R⁴ is pyridyl optionally substituted by a N,N-dimethylamino, N,N-diethylamino, azetidin-1-yl, pyrrolidin-1-yl, 3-pyrrolin-1-yl, piperidino, homopiperidin-1-yl, morpholino, piperazin-1-yl, homopiperazin-1-yl, 4-methylpiperazin-1-yl or 4-methylhomopiperazin-1-yl group, or R⁴ is 1-fluorenyl or dibenzofuran-4-yl; **and**

~~R⁵ is hydrogen;~~

or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof.

ATTORNEY DOCKET NO.: 056291-5046
Application No.: 09/937,018
Page 7

Claim 5 (currently amended): A bicyclic compound of the Formula (I) according to claim 24 wherein:

the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing

6-membered heteroaryl ring within Formula (I) is furo[3,2-d]pyrimidinyl, furo[2,3-d]pyrimidinyl, thieno[3,2-d]pyrimidinyl, thieno[2,3-d]pyrimidinyl, pyrrolo[3,2-d]pyrimidinyl, pyrrolo[2,3-d]pyrimidinyl, oxazolo[5,4-d]pyrimidinyl, oxazolo[4,5-d]pyrimidinyl, thiazolo[5,4-d]pyrimidinyl, thiazolo[4,5-d]pyrimidinyl, purinyl, pyrido[2,3-d]pyrimidinyl, pyrido[3,4-d]pyrimidinyl, pyrido[4,3-d]pyrimidinyl, pyrido[3,2-d]pyrimidinyl, pyrimido[4,5-d]pyrimidinyl, pyrimido[5,6-d]pyrimidinyl or pteridinyl;

~~m is 0 or m is 1 and each R¹ is independently methyl, methoxy, methylthio, 2-diisopropylaminoethoxy, 3-diethylaminoproxy, 3-morpholinoproxy or 3-pyrrolidin-1-ylproxy;~~

R² is hydrogen, methyl, fluoro or chloro;

R³ is hydrogen; and

~~q is 0;~~

R⁴ is pyridyl optionally substituted by a N,N-dimethylamino, N,N-diethylamino, pyrrolidin-1-yl, piperidino or morpholino group; and

~~R⁵ is hydrogen;~~

or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof.

Claim 6 (currently amended): A bicyclic compound of the Formula (I) according to claim 2 Claim 1 wherein:

the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing

6-membered heteroaryl ring within Formula (I) is thieno[3,2-d]pyrimidin-4-yl, thieno[2,3-d]pyrimidin-4-yl, thiazolo[5,4-d]pyrimidin-7-yl, 6-purinyl, pyrido[2,3-d]pyrimidin-4-yl, pyrido[3,4-d]pyrimidin-4-yl, pyrido[4,3-d]pyrimidin-4-yl, pyrido[3,2-d]pyrimidin-4-yl or pteridin-4-yl;

~~m is 0 or m is 1 and R¹ is methyl or methylthio;~~

R² is methyl;

ATTORNEY DOCKET NO.: 056291-5046
Application No.: 09/937,018
Page 8

R³ is hydrogen; and

~~q is 0;~~

R⁴ is phenyl, 3-fluorophenyl, 4-cyanophenyl, 2-methylphenyl, 2-methoxyphenyl, 3-methoxyphenyl, 3-ethoxyphenyl, 3,4-dimethoxyphenyl, 3,4-methylenedioxyphenyl, 3-(N,N-dimethylamino)phenyl, 3-acetamidophenyl, 3-(4-fluorophenyl)phenyl, 3-(2-furyl)phenyl, 3-pyrrolidin-1-ylphenyl, 3-morpholinophenyl, 3-fluoro-5-pyrrolidin-1-ylphenyl, 3-fluoro-5-piperidinophenyl, 3-fluoro-5-morpholinophenyl or 3-morpholino-5-trifluoromethylphenyl, or R⁴ is 2-morpholinopyrid-4-yl, or R⁴ is 1-fluorenyl or dibenzofuran-4-yl; and

~~R⁵ is hydrogen;~~

or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof.

Claim 7 (currently amended): A bicyclic compound of the Formula (I) according to claim 24 wherein:

the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing 6-membered heteroaryl ring within Formula (I) is thieno[3,2-*d*]pyrimidin-4-yl, thieno[2,3-*d*]pyrimidin-4-yl, thiazolo[5,4-*d*]pyrimidin-7-yl, pyrido[2,3-*d*]pyrimidin-4-yl, pyrido[3,4-*d*]pyrimidin-4-yl, pyrido[4,3-*d*]pyrimidin-4-yl, pyrido[3,2-*d*]pyrimidin-4-yl or pteridin-4-yl;

~~m is 0 or m is 1 and R¹ is methyl or methylthio;~~

R² is methyl;

R³ is hydrogen; and

~~q is 0;~~

R⁴ is 2-morpholinopyrid-4-yl; and

~~R⁵ is hydrogen;~~

or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof.

Claim 8 (currently amended): A bicyclic compound of the Formula (I) according to claim 24 selected from:

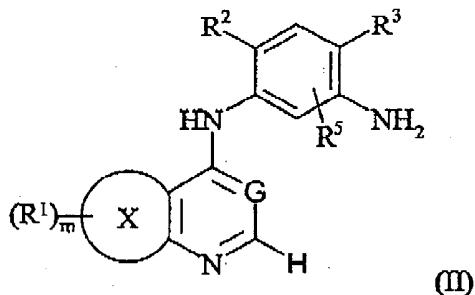
4-[2-methyl-5-(2-morpholinopyridine-4-carboxamido)anilino]thieno[3,2-*d*]pyrimidine,

ATTORNEY DOCKET NO.: 056291-5046
 Application No.: 09/937,018
 Page 9

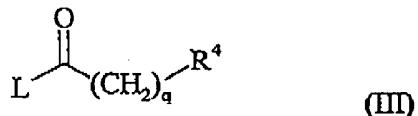
4-[2-methyl-5-(2-morpholinopyridine-4-carboxamido)anilino]pyrido[4,3-d]pyrimidine,
 4-[2-methyl-5-(2-morpholinopyridine-4-carboxamido)anilino]pteridine and
 6-[2-methyl-5-(2-morpholinopyridine-4-carboxamido)anilino]purine;
 or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof.

Claim 9 (currently amended): A process for preparing a compound of the Formula (I), or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof, according to claim 2 4 which comprises:

- a) reacting an aniline of the Formula (II):

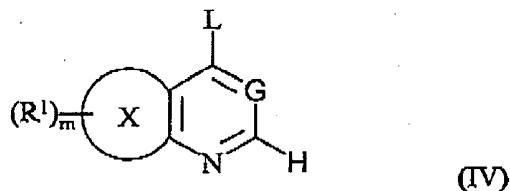


with an acyl compound of the Formula (III):



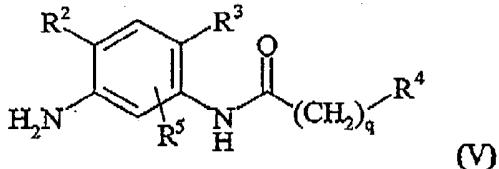
wherein G, R¹, R², R³, R⁴, R⁵, m, q and the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing 6-membered heteroaryl ring ring x, m and q are as defined in claim 2 4 and L is a displaceable group;

- b) reacting an activated bicyclic heteroaryl ring of the Formula (IV):



ATTORNEY DOCKET NO.: 056291-5046
 Application No.: 09/937,018
 Page 10

wherein G, R¹, ring X and m and the bicyclic ring formed by the fusion of ring X to the adjacent nitrogen-containing 6-membered heteroaryl ring are as defined in claim 2-1 and wherein L is a displaceable group, with an aniline of the Formula (V):



wherein R², R³, R⁴, R⁵ and q are as defined in claim 2-1; or

- c) for the preparation of a compound of the Formula (I) wherein R¹ or a substituent on R⁴ is C₁₋₆alkoxy or substituted C₁₋₆alkoxy, C₁₋₆alkylS-, N-C₁₋₆alkylamino, N,N-(C₁₋₆alkyl)₂amino **or** substituted C₁₋₆alkylamino, the alkylation, conveniently in the presence of a suitable base, of a compound of the Formula (I) wherein R¹ or a substituent on R⁴ is hydroxy, mercapto or amino as appropriate;

and thereafter if necessary:

- i) converting a compound of the Formula (I) into another compound of the Formula (I);
- ii) removing any protecting groups; and
- iii) forming a pharmaceutically acceptable salt or *in vivo* cleavable ester.

Claim 10. (currently amended): A pharmaceutical composition which comprises a bicyclic compound of the Formula (I), or a pharmaceutically acceptable salt or *in vivo* cleavable ester thereof, according to any one of claims 2-8 1-8 in association with a pharmaceutically acceptable diluent or carrier.

Claim 11 (canceled).

Claim 12 (currently amended): A method of treating a disease or medical condition mediated by cytokines which comprises administering to a warm-blooded animal in need thereof an effective amount of a bicyclic compound of the Formula (I), or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof, according to any one of claims 2-8 1-8.

ATTORNEY DOCKET NO.: 056291-5046
Application No.: 09/937,018
Page 11

Claim 13 (canceled).

Claim 14 (new): A method for producing an enzyme p38 kinase inhibiting effect in a warm-blooded animal which comprises administering to said animal an enzyme inhibiting amount of a compound of Formula (I), or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof, according to any one of claims 2-8.

Claim 15 (new): A method for producing a TNF α inhibiting effect in a warm-blooded animal which comprises administering to said animal a TNF α inhibiting amount of a compound of Formula (I), or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof, according to any one of claims 2-8.

Claim 16 (new): A method for the treatment of rheumatoid arthritis in a warm-blooded animal in need thereof comprising administering to said animal a treatment-effective amount of a compound of Formula (I), or a pharmaceutically acceptable salt or an *in vivo* cleavable ester thereof, according to any one of claims 2-8.